

simple: leaves mainly basal; blades spatulate or oblong-spatulate, 5–20 cm. long, tapering into broad petioles; stem-leaves usually oblanceolate to lanceolate or linear, few: racemes spike-like; staminate usually continuous, 5–20 cm. long, the tip nodding; pistillate stiff, interrupted, longer than the staminate; pedicels 1–5 mm. long: perianth (staminate) white; sepals and petals narrowly linear: capsules ovoid-oblong or oblong, 7–10 mm. long.

In open woods, Massachusetts to Ontario, Michigan, Florida and Arkansas. Spring and summer. I cite the following fruiting specimens:

NORTH CAROLINA: Roan Mountain, September 9, 1885, *Dr. and Mrs. Britton*.

TENNESSEE: Jackson, May, 1893, *Mr. S. M. Bain*, no. 173.

GEORGIA: Macon, *Dr. Boykin*.

FLORIDA: Apalachicola, *Dr. Chapman*.

2. **Chamaelirium obovale**. Stems 6–11 dm. tall, leafy at the base and to near the middle, somewhat zigzag: leaves various; basal with spatulate blades; cauline shorter, 4–15 cm. long, oblanceolate to lanceolate or linear, acute or acuminate, erect or ascending: flowers manifestly larger than those of *C. luteum*: capsules obovoid or oblong-obovoid, 12–14 mm. long, on stout club-shaped pedicels usually fully as long as the capsules or slightly shorter.

In open woods, New York to West Virginia, North Carolina and Alabama. Spring. I cite the following fruiting specimens:

NEW YORK: Apalachin, *Mr. F. E. Fenno*, no. 396.

NEW JERSEY: Sneden's Landing, on the Palisades, 1862, *Dr. Torrey*.

WEST VIRGINIA: White Sulphur Springs, August 19, 1890, *Dr. Britton* (type); Aurora, August and September, *Mr. and Mrs. E. E. Steele*.

ALABAMA: Auburn, August 11, 1897, *Messrs. Earle & Baker*.

Chamaelirium obovale seems to be rather characteristically an Alleghanian species and, as far as we know, approaches the sea coast only near New York City. On the other hand *C. luteum* is most common in the middle and low country of the southern states.

SHORTER NOTES

THE STORING OF SEEDS BY SQUIRRELS.—At Chilson Lake, Essex county, N. Y., on June 15th, I collected a mass of white pine seedlings from a hollow at the base of a pine tree, which convinced me that a "chipmunk" had stored them there for

winter use and forgotten them. Scattered through the woods among the paper-birches, I collected also clusters of seedlings which looked as if a whole catkin had germinated just as it fell. This also was probably the work of the squirrel for the seeds usually fall out and are blown away singly. These seedlings were brought home and some of them potted just as they were; the young plants have "*thinned themselves out*," and the few that remain in each pot, lean away from each other at precisely the angle which *clumps* of birches grow in. It seems probable that this will explain why the birches are frequently found growing in this way.—E. G. BRITTON.

NOTES ON ASTRAGALUS.—One of the most common failings of manual descriptions results in leaving the student without a vivid and definite impression of the plant as a whole, segregating it and its kind from all others; in other words, a *specific* impression. One is impressed by this more and more as he does larger amounts of field work and sees the plants at home and learns to know them equally well at all seasons. The best books become then "a weariness to the flesh" at times, because of their laboratory flavor. The illustrations in Britton and Brown help notably to overcome this failing, though they can give but one form where several may be found by the investigator in the field. Two species of *Astragalus*, with which it has been my good fortune to live, fail to find their proper description in any manuals that I have seen, viz., *A. Plattensis* Nutt. and *A. Hypoglottis* L. These are both caespitose in habit, from underground stems, forming beds a rod or more in extent, possibly and probably from several parent plants. *A. crassicaarpus* Nutt. and all the others with which these are botanically associated *branch from the crown* of a deep tap-root. The individual plants remain self-centered and isolated while the two of which I speak may be called gregarious. Now I wish to insist that this is the characteristic of these two species, so that with a slight knowledge in addition the collector may identify these species without waiting for fruit to mature, as otherwise he might have to do. Surely such marks as these, if known to the author, should never be omitted from any descriptions. Yet these are the very ones that are most likely to be omitted.—J. M. BATES.